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(71) Applicant (*for all designated States except US*):
BIOSCAN TECHNOLOGIES LTD. [IL/IL]; P.O.Box
281, 20692 Yokneam (IL).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **COTER, Florin**
[IL/IL]; 9a Baal Shem Tov St., 33742 Haifa (IL).

(74) Agent: **MILLER - SIERADZKI ADVOCATES &
PATENT ATTORNEYS**; P.O.Box 6145, 31061 Haifa
(IL).

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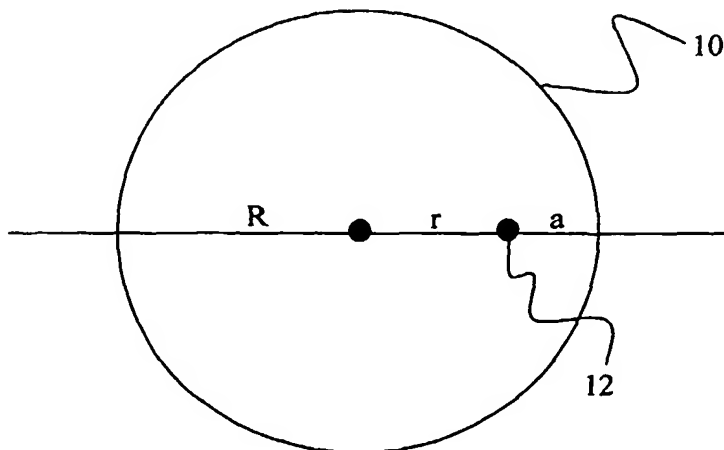
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(54) Title: SYSTEM AND METHOD FOR DETERMINING PROPERTIES OF A TUBULAR CAVITY



(57) Abstract: A method for determining the distance of a transceiver located within a lumen from the center of the lumen and for determining the radius of the lumen, the lumen cross-section being substantially circular at the transceiver location, the method applied on data received from a transceiver placed at a position within the lumen that is distance (r) from the center and distance (a) from the lumen wall, transmitting a signal of known velocity (v) that can be correlated with the time of flight and receiving a first signal and a second signal that are reflections of the transmitted signal, timing the time differences between the transmission of the transmitted signal and reception of the first (t1) and second (t2) reflection signals, the method comprising: Calculating the distance of the transceiver from the center of the lumen = (t1 - t2)v/4; and Calculating the radius of the

$$\text{lumen} = (t1 + t2)v/4.$$

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : G 01 N 29/02 US CL : 73/597, 614, 622-626; 128/462-467 According to International Patent Classification (IPC) or to both national classification and IPC																				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 73/597, 614, 622-626; 128/462-467 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST search terms: lumen, cylinder, vessel, cylindrical, tube, tubular, pipe, ranging, transit time, radius, diameter																				
C. DOCUMENTS CONSIDERED TO BE RELEVANT																				
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																		
A	US 3 542 014 A (PERONNEAU) 24 November 1970, see entire document	1																		
A	US 4 947 852 A (NASSI et al.) 14 August 1990, col. 8, lines 23-43	1																		
A	US 6 685 644 B2 (SEO et al.) 03 February 2004, co. 7, line 24 - col. 4, line 33	1																		
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